

REMARKS/ARGUMENTS

This Amendment is in response to the Office Action mailed July 28, 2005. In the Office Action, claims 98, 100 and 103-107 were allowed. Claim 116 was objected to as containing patentable subject matter but being dependent upon a claim that was not currently allowed. In addition, claims 74-79, 89-92, 99, 101 and 102 were rejected under 35 U.S.C. §112 and claims 70-97 and 108-115 were rejected under 35 U.S.C. §102. Reconsideration in light of the amendments and remarks made herein is respectfully requested.

Drawings

At paragraph one of the Office Action, the drawings were objected based on minor drafting informalities. Applicants have prepared replacement figures (FIGs. 1-3, 5, 8, 9B and 11) that include corrections to the drafting informalities. Applicants respectfully submit that no substantive new matter has been added and request acceptance of the replacement figures as provided herewith. A complete copy of the drawings are enclosed herewith.

Withdrawal of the outstanding objection to the drawings is respectfully requested.

Specification

At paragraph two of the Office Action, the disclosure was objected based on minor informalities. Herein, paragraphs [001] and [0068] have been amended to correct these minor informalities. However, it is noted that paragraph [0039] (page 13, line 13) of the subject application does not feature any informalities because the wording “ebb and flow,” is a proper, recognized term of art to denote the “reduction” (ebb) and “increase” (flow) of active threads.

Paragraphs [0042], [0044] and [0046] have been amended to correct typographical errors uncovered in these paragraphs.

In addition, paragraphs [0068 – 0072] have been amended to add in paragraph numbering.

Applicants respectfully submit that no substantive new matter has been added and request withdrawal of the objection of the disclosure.

Claim Objections

Claims 73 and 75 were objected to as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicants have altered the dependency of claim 73 to now depend on claim 70. Hence, Applicants respectfully request that the Examiner withdraw the objection to claims 73 and 75.

Rejection Under 35 U.S.C. § 112

Claims 74-79, 89-92, 99, 101 and 102 were rejected under 35 U.S.C. §112, second paragraph, as being allegedly indefinite. Applicants respectfully request that the Examiner withdraw the rejection of claims 74-79, 89-92, 99, 101 and 102 under 35 U.S.C. § 112, second paragraph based on the amendments set forth above.

Rejection Under 35 U.S.C. § 102

Claims 70-97 and 108-115 were rejected under 35 U.S.C. §102(b) as being anticipated by Emer (U.S. Patent No. 6,493,741). Applicants respectfully traverse the rejection because a *prima facie* case of anticipation cannot be established for the pending claims.

As the Examiner is aware, to anticipate a claim, the reference must teach every element of the claim. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Vergegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the...claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ 2d 1913, 1920 (Fed. Cir. 1989).

For instance, with respect to independent claim 70, the Office Action states that the *Quiesce Logic (110)* of Emer constitutes the suspend logic and is adapted to *set a monitor address in response to a first instruction....Emphasis added; see Pages 5-6 of the Office Action.* Applicants respectfully traverse the rejection because the suspend logic (*Quiesce Logic 110* of Emer) does not set the monitor address as claimed. Rather, the *Quiesce Logic (110)* of Emer starts a quiesce timer (107), and sets the TPU's state to “Quiesce” if the event monitor (109) is

armed. *See Column 5, lines 62-67 of Emer*. Therefore, withdrawal of the §102(b) rejection as applied to independent claim 70 is respectfully requested.

In addition, based on the dependency of claims 71-92 on independent claim 70, believed by Applicants to be in condition for allowance, no further discussion as to the grounds for traverse is warranted. Applicants reserve the right to present such arguments in an Appeal is warranted. However, for clarity purposes, arguments directed to the allowability of some of these dependent claims are provided.

For dependent claim 71, the Office Action alleges that the mapper (361) of Emer constitutes the translation look-aside buffer as claimed. *See Page 8 of the Office Action*. Applicants respectfully traverse the rejection, and respectfully submit that Emer fails to provide any teaching that the monitor (event monitor 109) causes resumption of the first thread *in response to events that cause by the translation look-aside buffer (mapper 361 of Emer) to be flushed*. Hence, withdrawal of the §102(b) rejection as applied to dependent claim 71 is respectfully requested.

For dependent claim 73, the Office Action alleges that the limitations set forth in this claim are taught because a write will eventually cause an interrupt for the I/O operation. *See Page 9 of the Office Action*. Applicants respectfully disagree that Emer provides such teachings because there is no teaching of the event monitor (109) *causing resumption of the first thread in response to an interrupt* (e.g., NMI or SMI). *Emphasis added; See Page 9 of the Office Action*. Hence, withdrawal of the §102(b) rejection as applied to dependent claim 73 is respectfully requested.

For dependent claim 79, the Office Action alleges that the Emer discloses an instruction buffer which can be combined to form a single partition dedicated to one thread or can be partitioned to be used by a plurality of threads. *See Page 10 of the Office Action; Column 6, lines 35-59 of Emer*. Applicants respectfully disagree with the allegation because Emer is exclusively directed to a multi-threaded environment and does not account for a single threaded department. *See Column 6, lines 31-49 of Emer*. Hence, withdrawal of the §102(b) rejection as applied to claim 79 is respectfully requested.

For dependent claim 80, the Office Action alleges that the Emer discloses a front end (considered to be the fetch thread chooser 301 or map thread chooser 351 of Emer). *See Page 10 of the Office Action*. As claimed, the front end performs micro-operation (uOP) generation from macroinstructions. Applicants respectfully traverse the rejection because Emer does not disclose that the fetch thread chooser (301) or the map thread chooser (351) elements with such functionality.

In fact, Applicants respectfully submit that the claimed functionality would not be performed by the fetch thread chooser (301) or the map thread chooser (351), and thus, respectfully request the Examiner to provide disclosure in Emer that supports the rejection. Otherwise, withdrawal of the §102(b) rejection as applied to claim 80 is respectfully requested.

For dependent claim 82, the Office Action alleges that the Emer discloses a processor wherein the second operand (in the “LDQ ARM R1, (R5)” instruction specifies events to mask. *See Page 11 of the Office Action; Column 6, lines 56 of Emer*. Applicants respectfully traverse the rejection because the “LDQ ARM R1, (R5)” instruction is adapted to compute the lock’s physical address from the contents of register R5, record the physical address in the event identification register (103), and load the lock value from the physical address into register R1. *See col. 6, lines 61-67 of Emer*. The second operand “(R5)” does not specify the events to mask as alleged in the Office Action.

Withdrawal of the §102(b) rejection as applied to claim 82 is respectfully requested.

With respect to independent claim 93, the Office Action states that the *execution resources* (TPUs of Emer) execute the first instruction (LDQ ARM R1, (R5)) and the second instruction (QUIESCE) and to enter a first implementation dependent state (“armed” watch flag 105) *in response to the second instruction if the first instruction has been executed and no break events*. *Emphasis added; See Pages 6-7 of the Office Action*. Applicants respectfully traverse the rejection because the second instruction (QUIESCE) does not place the execution resources (TPUs) into the first implementation dependent state. Rather, the first instruction of Emer places the execution resources into the first implementation dependent state as claimed.

Therefore, withdrawal of the §102(b) rejection as applied to independent claim 93 and those claims dependent thereon is respectfully requested.

With respect to independent claim 108, Applicants have placed the limitation of objected claim 116 into independent claim 108. Applicants respectfully submit that claim 108 is in condition for allowance. Withdrawal of the §102(b) rejection as applied to independent claim 108 and those claims dependent thereon is respectfully requested.


Conclusion

Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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Dated: 10/28/2005

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Attachments

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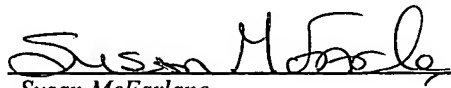
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Susan McFarlane
10/28/2005
Date

Amendments to the Drawings:

The attached sheet of drawings includes changes to FIGs. 1-3, 5, 8, 9B and 11. These sheets, which include FIGs. 1-3, 5, 8, 9B and 11, are submitted herewith to replace the original sheets. In FIG. 1, the reference labels "170" and "180" were added. FIG. 2 has been revised to correct a typographical error in box 225. FIG. 3 has been revised to include the reference label "340" and to correct a typographical error in box 380. FIG. 5 has been revised to correct a typographical error by substituting three uses of the reference label "525" for "560", "570" and "580." FIG. 8 has been revised to include the reference label "802". FIG. 9B has been revised to correct the ordering of content within blocks 940 and 945. FIG. 11 has been revised to correct a typographical error by substituting the reference label "1130" for "1100".

Attachment: Replacement Sheets